

Development of Space Wire Interface demonstration module

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The SWIM stands for SpaceWire Interface demonstration Module. It is the general small data processing with SpaceWire interface that is new space communication protocol. The SWIM onboard the Small Demonstration Satellite-1 (SDS-1) will be launched in 2008.

Few years ago all the electronic payloads (instrument electronics, processing units, on-board computer units etc.) for space missions were custom built and developed on a project-by-project basis resulting in long development at high cost and risk. Major requirements were flexibility, modularity and re-use. The last point was judged as very important. Indeed, implementing systems of such a complexity was only feasible/affordable if basic elements (H/W and S/W) could be reused. The architecture decomposes the global payload data processing system in nodes interconnected by high-speed serial links via routers by SpaceWire interfaces. We will report the present status of the development of the SWIM.